



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,281	07/12/2006	Markus Gesk	10191/4099	2007
26646	7590	04/20/2010	EXAMINER	
KENYON & KENYON LLP			HOGAN, JAMES SEAN	
ONE BROADWAY				
NEW YORK, NY 10004			ART UNIT	PAPER NUMBER
			3752	
			MAIL DATE	DELIVERY MODE
			04/20/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/552,281	GESK ET AL.	
	Examiner	Art Unit	
	JAMES S. HOGAN	3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 23 February 2010.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 8-14 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 8-14 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1.) Certified copies of the priority documents have been received.
 2.) Certified copies of the priority documents have been received in Application No. _____.
 3.) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Request for Continued Examination/Response to Arguments

1. Applicant's arguments filed March 23, 2010 have been fully considered but they are not persuasive. It is in the Examiner's opinion, based on the newly amended claims, that the order by which the perforated disc is constructed does not differentiate it from a disc that can combine the teachings as expressed below as part of its own manufacture. As to the request of the Examiner to support the argument of the notoriety of first dimpling and then forming an aperture, the supporting art of Brownbill below teaches an example that can be included into the claimed method without a supporting affidavit from the Examiner.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,039,271 to Reiter in view of U.S. Patent No 6,405,946 to Harata et al.

As per claim 8, Reiter teaches part of a method for producing and securing an apertured disk (34) for a fuel injector for a fuel-injection system of an internal combustion engine. Shown is an apertured disk having an opening contour (39) which ensures a complete passage for a fluid, is shown as a metallic sheet having a constant

Art Unit: 3752

thickness and having introducing at least one spray-discharge opening (39) in the center region, and is secured by impressing the disk (34) into a valve seat of a fuel injector and by being welded around its bottom seam in such a way that a lower end face of the valve-seat member delimits an intake region of the apertured disk such that the at least one spray-discharge opening is covered. In step (b) of claim 8, Reiter does not teach material thickness reduction.

Harata et al shows reduced thickness in one region of a sheet disk shown in Figure 4 by “forming a depression” (Col. 4, line 32-35) onto a disk (60) on a valve seat of a fuel injector and by being welded around its bottom seam. It is not known if the depression is formed by embossing or impressing. Brownbill teaches a method where a thickness by impressing or embossing its quite capable by forming a frustoconical depression in the sheet, and then introducing an opening using a single tool. (Col. 4, line 30-35). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have reduced thickness in a material as in the disk of Reiter as shown by Harata et al and Brownbill, since it is known to reduce thickness by all forms of stamping and embossing, and after which forming apertures and then finishing the disk by machining, as both are known to have and affect on material by their implicit nature, and would further be desirable in order to provide a part with a desired thickness tolerance in order to ensure proper fitting into its designated placement within an apparatus.

As for, in step (c) of the claim, locating the opening in the region of reduced thickness, that thickness being reduced, (and as per claim 13) microscopically within the

range of 0.05 mm to 0.01mm, that being the nature of material formed by impression, it would have been obvious to one having ordinary skill at the time the invention was made to have located the opening at a central point, as it is a natural location for such an opening.

Further, as in step (d) of the claim, the act of machining the sheet until an apertured disk has predefined outside dimensions attained is a known technique to one of ordinary skill and does not hold any patentable weight as it is used universally in the fuel injector art.

As per claims 9 and 11, neither Reiter nor Harata et al teach a particular material, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected as desired material for the disk, since it has been held to be within the skill of a worker to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice and engineering logic

As per claim 10, distributing excess material thrown up by embossing by further rolling the material is a known metalworking technique whose use is not given any patentable weight as it is used universally in the art.

As per claim 12, the act of grinding off excess material is a well known technique of material reduction, to one of ordinary skill and does not hold any patentable weight as it is used universally in the art of material modification.

As per claim 14, Reiter teaches its spray-discharge opening as being formed by drilling, erosion, stamping (Col. 2, lines 52-43).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES S. HOGAN whose telephone number is (571)272-4902. The examiner can normally be reached on Mon-Fri, 6:00a-3:00p EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571)272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S. H./
Examiner, Art Unit 3752
4/12/10

/Len Tran/
Supervisory Patent Examiner, Art Unit 3752